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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Christian KUNERT et al.		Confirmation No.:	1157
Serial No.:	10/713,050	Examiner:	Not Yet Assigned
Filed:	November 17, 2003	Group Art Unit:	1755

Title: USE OF A GLASS FOR THERMAL SHOCK-RESISTANT BEVERAGE CONTAINERS

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Christian Kunert, being duly warned, declare that: I am a citizen of Germany residing at Mueuchfeld 64, Mainz 55122, Germany.

I possess the degree of an Engineer of Material Science, having studied Material Science at the Universiät Erlangen-Nürnberg in Erlangen-Nuremberg, Germany, and New York State College of Ceramics at Alfred University in Alfred, NY.

Since April 1995, I have been employed as a Material Science Engineer by Schott Glas, Mainz, Germany.

I am an inventor of the above-captioned application and am, therefore, familiar with the invention described therein and with the grounds of rejection in view of U.S. Patent No. 5,288,668 (Netter) made against the claims of the parent application No. 09/532,966 in the Office Action mailed October 25, 2001, and the decision of the Board of Patent Appeals mailed September 16, 2003, from the U.S. Patent and Trademark Office. Under German law I will receive royalties, as an inventor, from commercialization of a resulting patent.

The specification of the above-captioned application discloses, for example:

A glass with a composition in the range (in % by weight, based on oxide) of

SiO_2	about 78.5	–	about 79.5
B_2O_3	about 13.0	–	about 14.0
Al_2O_3	about 2.0	–	about 3.0
Na_2O	about 4.5	–	about 5.5
K_2O	0	–	about 0.6

See page 2 of the specification, for example.

Submitted herewith is an exhibit which is a beaker of the inventive glass made 4 January 1999, according to the instant claims. It is readily apparent that this glass is colorless. This sample was made during a continuous production run around January 1999. Below is sample data from that same run, namely, 6 January 1999 and 14 January 1999. The latter is a wet test which depicts more elements.

Date	06.01.1999 02:00	14.01.1999 02:00
	wt%	*wt%*
SiO_2	78.9	79.08
Al_2O_3	2.4	2.44
B_2O_3	13.37	13.35
BaO		0.014
CaO		0.022
MgO		0.019
ZnO		
Na_2O	4.86	4.8
Li_2O		
K_2O	0.03	0.024
ZrO_2		0.088
As_2O_3		
Cl		0.07
Fe_2O_3		0.035
Cr_2O_3		0.0007
TiO_2		0.032
PbO		
P_2O_3		
Sb_2O_3		

The similarity of these two analyses shows that they are valid for the enclosed sample, because all of these samples came from the same continuous production run. (The 6 January 1999 analysis is an x-ray-fluorescence analysis that only checks for major components, particularly those introduced into the glass melt in the glass batch. The 14 January 1999 analysis is a wet chemical analysis where a small part of the glass is dissolved and components are detected including impurities at detectable levels. The wet chemical analysis found very small amounts of coloring impurities such as Fe_2O_3 and Cr_2O_3.)

One skilled in the art would immediately know that such a glass, without the inclusion of other materials such as impurities, would necessarily be colorless. This is a well known, inherent feature of such a glass. Particularly, another borosilicate glass, having a composition (in wt%) of:

80.9	SiO_2;
12.8	B_2O_3;
2.4	Al_2O_3;
3.3	Na_2O; and
0.6	K_2O,

is well known (see, e.g., the comparison example at column 5 of attached U.S. Patent No. 5,876,472) and sold under the trade designation DURAN by Schott Scientific Glass, Inc. of Elmsford, NY, a subsidiary of the assignee of the present application. This glass is used for labware and known to be colorless. See, e.g., an attached page from Schott Glass Technologies website, stating that the DURAN glass is "clear and colorless."

Moreover, such a glass generally has an inner transmission of greater than 90%, even if raw materials of technical quality are utilized. Utilizing raw materials of technical quality generally introduces iron impurities that can lead to a yellow-green-brownish color. However, such a color is usually only visible from the cutting edge of the glass, and not from

a view through the panel. Attached hereto is spectral transmission data for a DURAN glass. As depicted in the attached graph, even if a DURAN glass has iron impurities up to 80 ppm, such a glass will still be perceived as colorless, because the visible spectrum of light is 400–700 nm, and light transmission in the visible range is greater than 90%.

If a glass was colored due to iron impurities, one of skill in the art would readily recognize that adding a decolorant, such as Er_2O_3 or CoO, counteracts or hides the coloring effect of iron to reestablish a colorless glass, e.g. if viewed from the cutting edge. Consequently, one of skill in the art reviewing the specification as a whole, would readily recognize that adding a decolorant to the disclosed glass to counteract or hide the coloring effect of iron would result in a colorless glass. Moreover, one of ordinary skill in the art would readily recognize that balancing two colors, one of which is as a result of an impurity and the other a result of adding a decolorant, can provide a colorless glass. Although the transmission of the glass would be diminished, a glass as disclosed at page 2 of the present specification having such an impurity counteracted with a decolorant would have a sufficiently high transmission to be perceived as colorless. (Because of the lower amounts of impurities, the transmission is not adversely affected as much.)

With respect to the manganese oxide component disclosed in the glass of Netter, one skilled in the art would readily recognize that the manganese oxide in the amounts disclosed by Netter is a colorant because it imparts a pink color to the glass. Particularly, attempting to use the manganese oxide as disclosed by Netter to cover other colors that are commonly caused by new material impurities would still result in a pink colored glass. Netter specifically states that a pink color results. Moreover, attempting to add a decolorant to counteract the manganese oxide of Netter would result in a glass having a gray color, because the addition of the amounts of manganese oxide disclosed by Netter results in a large transmission decrease at a given wavelength range. Attempting to lower the transmission at

other wavelengths would result in an insufficient transmission for a person to perceive the glass as colorless. Consequently, one of skill in the art would readily recognize that the manganese oxide disclosed by Netter is not a decolorant, but a colorant. A glass having the Mn oxide as in Netter could not be a colorless glass because no decolorant is sufficient to mask its coloring effect without reducing total transmission to an extent where the glass is perceived as gray.

I hereby declare that all statements made herein of my own knowledge are true and that all statements were made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Oct. 4 2004
DATE

Christian Kunert
(NAME OF PERSON SIGNING)

K:\Sgw\97c2\132 Declaration.doc

Optical properties of SCHOTT DURAN® Borosilicate Glass

Optical properties

DURAN® borosilicate glass exhibits no significant absorption in the visible range of the spectrum. This means that the appearance of DURAN® is clear and colorless. In approximately the 310-2200nm range of the spectrum, the absorption of DURAN® is negligibly low. For work with light-sensitive substances the surface of the glass can be tinted brown with a diffusion color. This results in strong absorption in the short-wave region. For work with light-sensitive substances the surface of the glass can be tinted brown with a diffusion color. This results in strong absorption in the short-wave region. The absorption margin for tinted glass is at about 500nm.

In photochemical processes the light transmission of DURAN® in the ultraviolet range is of particular importance. The degree of transmission in the UV range shows that photochemical reactions, for example chlorinations and sulfochlorinations, can be carried out. The chlorine molecule absorbs in the 280—400nm range and thus serves as a carrier of the radiation energy.

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Probe : Duran *d = 1 mm*